3.3.3.2 Dry Prairie

3.3.3.2.1 Community Overview

This dry grassland community usually occurs on steep south or west facing slopes or at the summits of river bluffs with sandstone or dolomite bedrock near the surface. Short to medium-sized prairie grasses such as little bluestem, side-oats grama, hairy grama, and prairie dropseed are the dominants in this community. Common shrubs and forbs include lead plant, silky aster, flowering spurge, purple prairie-clover, cylindrical blazing-star, and gray goldenrod. Stands on knolls in the Kettle Moraine region of southeastern Wisconsin, and on bluffs along the St. Croix River on the Minnesota-Wisconsin border, occur on gravelly substrates and may warrant recognition as distinctive subtypes of "Dry Prairie"

Because Dry Prairie occurs on sites that are not well suited to other uses, it is better represented in today's landscape than any other prairie community. It is still a relatively rare natural community that is more abundant in Wisconsin than anyplace else because of the many steep-sided bluffs in the extensive Driftless Area, the rough terrain of the kettle interlobate moraine, and the north-south orientation of several major river valleys such as the Mississippi, the Chippewa, and the St. Croix. These topographic attributes provide suitable sites for the development and persistence of this prairie type.

3.3.3.2.2 Vertebrate Species of Greatest Conservation Need Associated with Dry Prairie

Thirty-one vertebrate Species of Greatest Conservation Need were identified as moderately or significantly associated with dry prairie (Table 3-81).

Table 3-81. Vertebrate Species of Greatest Conservation Need that are (or historically were) moderately or significantly associated with dry prairie communities.

Species Significantly Associated with Dry Prairie
Birds
Upland Sandpiper
Field Sparrow
Vesper Sparrow
Grasshopper Sparrow
Herptiles
Wood Turtle
Blanding's Turtle
Ornate Box Turtle
Western Slender Glass Lizard
Northern Prairie Skink
Prairie Racerunner
Western Worm Snake
Yellow-bellied Racer
Prairie Ringneck Snake
Black Rat Snake
Bullsnake
Timber Rattlesnake
Eastern Massasauga Rattlesnake
Mammals
White-tailed Jackrabbit
Prairie Vole
Species Moderately Associated with Dry Prairie
Birds
Northern Harrier
Greater Prairie-chicken
Sharp-tailed Grouse
Northern Bobwhite
Barn Owl
Short-eared Owl
Brown Thrasher
Loggerhead Shrike
Bell's Vireo
Lark Sparrow
Eastern Meadowlark
Western Meadowlark

In order to provide a framework for decision-makers to set priorities for conservation actions, the species identified in Table 3-81 were subject to further analysis. The additional analysis identified the best opportunities, by Ecological Landscape, for protection, restoration, and/or management of both dry prairie and associated vertebrate Species of Greatest Conservation Need. The steps of this analysis were:

- Each species was examined relative to its probability of occurrence in each of the 16 Ecological Landscapes in Wisconsin. This information was then cross-referenced with the opportunity for protection, restoration, and/or management of dry prairie in each of the Ecological Landscapes (Tables 3-82 and 3-83).

- Using the analysis described above, a species was further selected if it had both a significant association with dry prairie and a high probability of occurring in an Ecological Landscape(s) that represents a major opportunity for protection, restoration and/or management of dry prairie. These species are shown in Figure 3-13.

Table 3-82. Vertebrate Species of Greatest Conservation Need that are (or historically were) *significantly* associated with dry prairie communities and their association with Ecological Landscapes that support dry prairie.

Dry Prairie	Birds (4)*				Herptiles (13)													Mammals (2)	
Ecological Landscape grouped by opportunity for management, protection, and/or restoration of this community type	Upland Sandpiper	Field Sparrow	Vesper Sparrow	Grasshopper Sparrow	Wood Turtle	Blanding's Turtle	Ornate Box Turtle	Western Slender Glass Lizard	Northern Prairie Skink	Prairie Racerunner	Western Worm Snake	Yellow-bellied Racer	Prairie Ringneck Snake	Black Rat Snake	Bullsnake	Timber Rattlesnake	Eastern Massasauga Rattlesnake	White-tailed Jackrabbit	Prairie Vole
MAJOR																			
Southeast Glacial Plains	■	■	■	■		■	■					■					■		■
Southwest Savanna	■	■	■	■		■	■					■	■		■	■			■
Western Coulee and Ridges	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		■
IMPORTANT																			
Central Sand Hills	■	■	■	■		■	■	■				■			■				■
Central Sand Plains	■	■	■	■	■	■		■				■	■		■		■	■	■
Western Prairie	■	■	■	■	■	■			■	■		■				■		■	■

Color Key

■ = **HIGH probability the species occurs in this Ecological Landscape**

■ = **MODERATE probability the species occurs in this Ecological Landscape**

□ = **LOW or NO probability the species occurs in this Ecological Landscape**

*** The number shown in parentheses is the number of Species of Greatest Conservation Need from a particular taxa group that are included in the table. Taxa groups that are not shown did not have any Species of Greatest Conservation Need that met the criteria necessary for inclusion in this table.**

Table 3-83. Vertebrate Species of Greatest Conservation Need that are (or historically were) *moderately* associated with dry prairie communities and their association with Ecological Landscapes that support dry prairie.

Dry Prairie

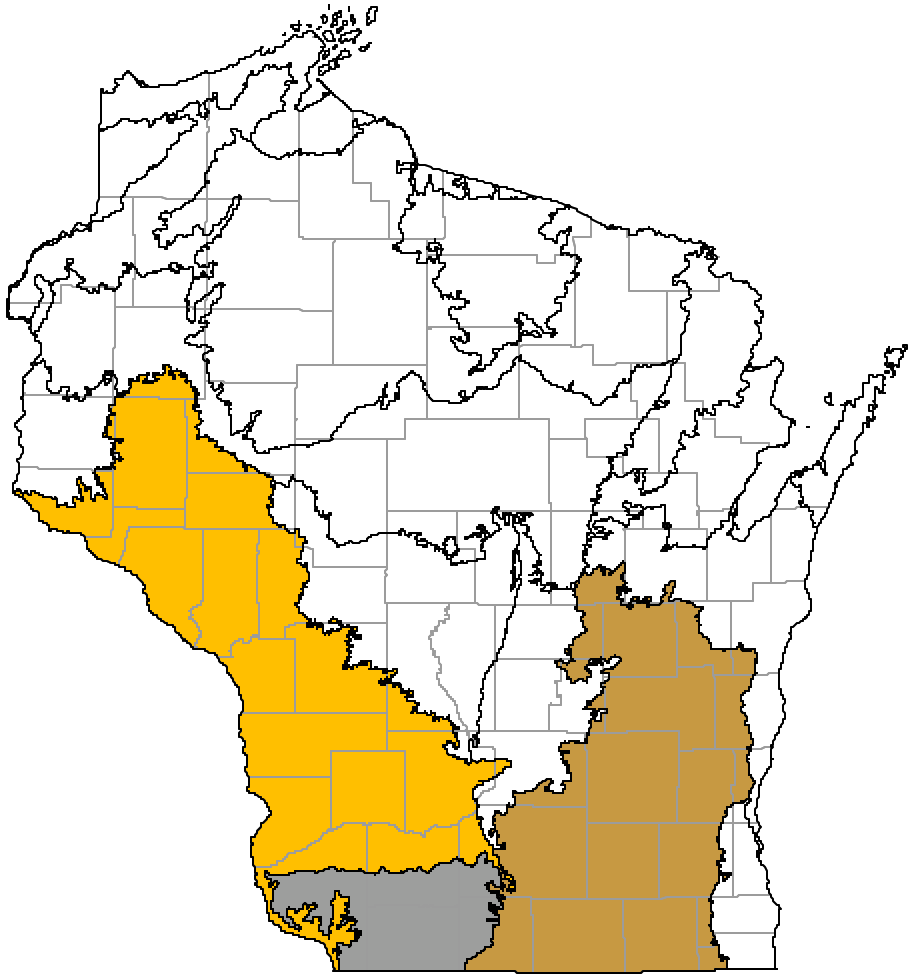
Ecological Landscape grouped by opportunity for management, protection, and/or restoration of this community type	Birds (12)*											
	Northern Harrier	Greater Prairie-Chicken	Sharp-tailed Grouse	Northern Bobwhite	Barn Owl	Short-eared Owl	Brown Thrasher	Loggerhead Shrike	Bell's Vireo	Lark Sparrow	Eastern Meadowlark	Western Meadowlark
MAJOR												
Southeast Glacial Plains												
Southwest Savanna												
Western Coulee and Ridges												
IMPORTANT												
Central Sand Hills												
Central Sand Plains												
Western Prairie												

Color Key

- = **HIGH probability the species occurs in this Ecological Landscape**
- = **MODERATE probability the species occurs in this Ecological Landscape**
- = **LOW or NO probability the species occurs in this Ecological Landscape**

*** The number shown in parentheses is the number of Species of Greatest Conservation Need from a particular taxa group that are included in the table. Taxa groups that are not shown did not have any Species of Greatest Conservation Need that met the criteria necessary for inclusion in this table.**

Figure 3-13. Vertebrate Species of Greatest Conservation Need that have *both* a significant association with dry prairie *and* a high probability of occurring in an Ecological Landscape(s) that represents a major opportunity for protection, restoration and/or management of dry prairie.



Southeast Glacial Plains
Field Sparrow
Vesper Sparrow
Grasshopper Sparrow
Blanding's Turtle
Ornate Box Turtle
Eastern Massasauga Rattlesnake

Southwest Savanna
Upland Sandpiper
Field Sparrow
Vesper Sparrow
Grasshopper Sparrow
Blanding's Turtle
Ornate Box Turtle
Yellow-bellied Racer
Prairie Ringneck Snake

Western Coulees and Ridges
Field Sparrow
Vesper Sparrow
Grasshopper Sparrow
Wood Turtle
Blanding's Turtle
Ornate Box Turtle
Western Slender Glass Lizard
Northern Prairie Skink
Prairie Racerunner
Western Worm Snake
Yellow-bellied Racer
Prairie Ringneck Snake
Black Rat Snake
Bullsnake
Timber Rattlesnake
Eastern Massasauga Rattlesnake

3.3.3.2.3 Threats and Priority Conservation Actions for Dry Prairie

3.3.3.2.3.1 Statewide Overview of Threats and Priority Conservation Actions for Dry Prairie

The following list of threats and priority conservation actions were identified for dry prairie in Wisconsin. The threats and priority conservation actions described below apply to all of the Ecological Landscapes in Section 3.3.3.2.3.2 unless otherwise indicated.

Threats and Issues

- Many remnant prairies exist along the bluffs of large rivers in southwestern Wisconsin; however, most sites are small and isolated. It can be very difficult, and expensive, to manage small sites, especially on these steep slopes.
- Special care is needed to managing for some of the fire sensitive invertebrates and herptiles, but this complicates the management of vegetation. Genetic diversity of prairie species on these small, isolated patches may be declining, along with species diversity.
- Lack of fire is a problem.
- Non-native invasives are a problem out-competing native species (e.g., non-native grasses, spotted knapweed, crown vetch, and leafy spurge).
- Aggressive native plants can also lead to habitat conversion (e.g., smooth sumac, black walnut).
- Succession of open prairie to red cedar thickets can be a problem.
- Grazing is not common in this type, but can cause community simplification, encourage the expansion of invasive plants, and contribute to erosion.
- Urban expansion is occurring in some locations, especially around larger cities. Hilltop housing developments can impact prairie remnants and limit the opportunity to manage with prescribed fire. Lack of land use planning that protects bluff lands limits opportunities to manage or restore this community type.
- Conflicts sometimes exist with forest management objectives.

Priority Conservation Actions

- Preserve and manage large sites where they exist.
- Connect and buffer sites where possible. Use a "stepping stone" approach to designing conservation sites where it is not possible to enlarge or connect disjunct prairie patches.
- Use prescribed fire, brushing, and other tools to restore overgrown sites.
- Where possible, manage in a complex of savanna, surrogate grasslands, other prairie types, and/or oak forest.
- Promote private management (e.g., via the Prairie Enthusiasts) of small sites where possible, and provide funding and technical resources to landowners who wish to restore remnants or reconstruct prairies on former farmland, especially in landscapes where there are native prairie remnants or extensive Conservation Reserve Program lands.
- Develop incentives to preserve or restore this community type.
- Follow existing management guidelines for prescribed burning to minimize impacts on sensitive species.
- Develop educational tools and demonstration areas that promote benefits of prescribed fire, and address liability concerns.
- Grazing should be discouraged. Develop incentives to limit grazing on native prairie.
- Maintain connectivity for reptiles and invertebrates where possible.
- Continue and support research to identify and develop biocontrols for invasives; control spread of new invasives.

- More detailed floristic studies of dry prairies outside of the Driftless Area are needed to resolve questions regarding the variability associated with this type, and to better determine conservation priorities.

3.3.3.2.3.2 Additional Considerations for Dry Prairie by Ecological Landscape

Special considerations have been identified for those Ecological Landscapes where major or important opportunities for protection, restoration, and/or management of dry prairie exist. Those considerations are described below and are in addition to the statewide threats and priority conservation actions for dry prairie found in Section 3.3.3.2.3.1.

Additional Considerations for Dry Prairie in Ecological Landscapes with ***Major*** Opportunities for Protection, Restoration, and/or Management

Southeast Glacial Plains

The dry prairie type is of limited extent in this Ecological Landscape, but locally common in the South Unit of the Kettle Moraine State Forest on steep slopes of south or west-facing morainal ridges. The substrate consists of glacially deposited sands and gravels. Most prairies here are small and overgrown, but some sites are now being managed with prescribed fire, brushing, and herbicides. Many sites were historically small and restricted due to topographic position, where they intergraded with other prairie types and oak openings. Larger sites should be preserved where they exist. Opportunities for restoration exist, and these may be less labor-intensive than for tallgrass types. Additional development on and around restorable sites should be limited, especially where that would conflict with the need to use prescribed fire or other active management tools. More information should be gathered to document differences of the prairies on glacial moraine from those on Driftless Area bluffs. Sites should also be monitored to determine whether management is maintaining native diversity.

Southwest Savanna

The dry prairie type is limited in extent in this Ecological Landscape and restricted mostly to steep slopes on bluffs (e.g., bluff prairies and goat prairies). Large unplowed pastures are present in some parts of this Ecological Landscape that could be restored to native grasslands. Urban expansion is occurring in some locations and can impact prairie remnants and limit the opportunity to manage with prescribed fire. Examples are found at Thomson Prairie and Barneveld Prairie Preserves (Iowa County), and Yellowstone Savanna and Hardscrabble Prairie State Natural Areas (Lafayette County).

Western Coulees and Ridges

This Ecological Landscape represents the best opportunity in the state (and perhaps in the upper Midwest) for conservation of this community. The type is found on steep slopes on bluffs (and have often been called "bluff prairies", "goat prairies", or "dry lime prairies"). Patch sizes are typically small, but there are many extant occurrences. Examples of this type are found at Battle Bluff Prairie (Vernon County), Rush Creek (Crawford County), Trenton Bluff Prairie (Pierce County), Gasner Hollow Prairie (Grant County), and Morgan Coulee Prairie (Pierce County) State Natural Areas.

Additional Considerations for Dry Prairie in Ecological Landscapes with ***Important*** Opportunities for Protection, Restoration, and/or Management

Central Sand Hills

This type is not well represented in this Ecological Landscape. Sites should be preserved where they exist. The best example is found at Hawk Hill (Dane County). Other dry prairies here should be classified as "Sand Prairie".

Central Sand Plains

This type is not well represented in the Ecological Landscape and is associated with steep slopes on sandstone ridges. Sites should be preserved where they exist. Examples are found at Brooks Bluff (Adams County), Round Bluff, Townline Bluff, and Twin Teton Bluffs (all in Juneau County).

Western Prairie

Dry prairie is of limited extent in isthe Ecological Landscape, occurring mostly on steep west-facing slopes on bluffs of the St. Croix River and some of its tributaries, and in a few sandy-soiled areas elsewhere. Patch sizes are typically small with a few existing and potential sites. Past grazing has led to degradation of many sites. Urban expansion is occurring throughout the Ecological Landscape and existing sites should be preserved. Examples of dry prairie occur at Apple River Canyon State Natural Area and at Willow River State Park (St. Croix County), and as small patches on bluffs with south or west aspects in the Kinnickinnic River Valley (Pierce County).